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**TO:** Kenneth Shewmake, Ecological Risk Assessor  
U.S. Environmental Protection Agency, Region VI

**FROM:** Barry Forsythe, Ph.D., Technical Liaison  
U.S. Fish & Wildlife Service

**DATE:** 14 April 2006

**RE:** Star Lake Canal RI Workplan

I have reviewed the document entitled, "Remedial Investigation: Star Lake Canal Superfund Site, Port Neches, Texas" and have the following comments to be incorporated with yours to Phillip Allen (EPA-RPM). I limited my review to those sections of the document providing general information and specific to the ecological evaluations. I did not review the HASP or the SOPs.

**General Comments:**

1. In general I found the document to be satisfactory and sufficient for its intended purpose.
2. More discussion/clarification needs to be provided for the initial COPEC selection (e.g., facility processes and possible inputs).
3. More discussion/clarification needs to be provided justifying the frequency (statistically based) and location of samples (are they sufficient to define nature and extent).

**Specific Comments:**

1. WP, Page 1-2, § 1.2, Site Characterization: At this point groundwater has not been discussed (previous studies) and thus should be listed as a media of concern. Alternatively, the sentence could be changed to read, "abiotic media (surface water, sediment, soil, groundwater)."
2. WP, Page 1-2, § 1.2, SLERA: There should be some revision to reflect that the objective of the SLERA is to "use site-specific data," not necessarily requiring new sampling (at this point in the document).
3. WP, Page 2-2, § 2.0, Public Health Assessment: The summary provided indicates that the exposures evaluated were consumption of fish, drinking water, and incidental ingestion of sediments and surface water. However, the concluding statement says, "groundwater does not pose a risk." What were the results for the other exposure pathways?
4. WP, Page 3-1, § 3.1, SMDP Outcomes: Suggest using the terms, "acceptable risk, indeterminate risk, and unacceptable risk."
5. WP, Page 3-3, § 3.3: It appears as though the COPEC selection criteria, as explained here, is actually the

exercise to be performed in Step 2 of the risk assessment process. It would be prudent to include a discussion here or prior (site history) detailing the facility processes and constituents associated with current/past operations; which may have been discharged and contributed to any contamination. An example that makes this apparent is the listing of pentachlorophenol (PCP) as a COPEC, without also listing the known contaminants of that product (dioxins/furans) that may also be present. In addition in this section mercury is described as an “inorganic” bioaccumulative. The form of mercury, methyl mercury, that is of bioaccumulative and biomagnification concern is actually an organic.

6. WP, Page 3-3, § 3.4, Threatened and Endangered Species: Special status species should also be considered in the evaluation of receptors of concern if critical habitat for such species is documented to exist at the site.
7. WP, Table 3-2, Threatened and Endangered Species: The Piping Plover (*Charadrius melodus*, E,T) is currently listed on the USFWS website for Jefferson Co.. Also, the Bald Eagle and Brown Pelican are federally listed species.
8. WP, Page 3-8, White-faced Ibis: Not sure that the rationale for eliminating further evaluation for this species is sufficient. If they are common to the county and area (as stated), but just have not been documented at the site (by TPWD), they should be retained since preferred habitat exists.
9. WP, Page 3-8, § 3.4.2: Can the observation of the muskrat be confirmed? Is it possible that it was a nutria?
10. WP, Page 3-9: Suggest using a wading bird of smaller size, such as the green heron or snowy egret. Please explain the selection of the mottled duck beyond having been observed. Will enough literature data be available to actually model exposure/effects to this species? Suggest replacing with the more commonly used (and data rich) dabbling duck, the mallard.
11. WP, Page 3-10, § 3.5, ARARs: For soils, suggest inclusion of EPA’s EcoSSL’s.
12. WP, Figure 3-2, CSM: It appears that the sediments are the original source of contaminants, as depicted. This figure should be revised to include the “true” original sources (facilities) via ‘end of pipe discharge’ and/or contaminated soil erosion/runoff.
13. WP, Page 3-12, § 3.6.1: If taken as stated, then receptors’ exposure will be only modeled for mid-channel sediments. When in fact, many of the selected ROCs will be utilizing the shoreline, which as defined in the document, are not sediments (permanently covered with water).
14. WP, Page 3-12, § 3.6.1, Potentially Complete: Need further rationale to explain the elimination of bank soils as an exposure area for mammals. If the areas are significant enough to be used in modeling exposure to the marsh wren, then they should also be used for mammals.
15. WP, Page 3-12, § 3.6.1, Incomplete: Do not agree that shorebird exposure to bank soils is incomplete. At a minimum, as described, the erosion of these areas put them in direct contact with areas shorebirds will utilize for foraging. So, the exposure may be minimal (potentially complete) if these areas are small, but could also be significant if providing habitat for prey.
16. WP, Page 3-14, 2<sup>nd</sup> ¶: Bank soils should be added to the list of media where the maximum concentrations are compared to screening levels/benchmarks and/or TRVs, as appropriate.
17. WP, Page 3-15: Bioconcentration factor is abbreviated, “BCF”, not BAF (bioaccumulation factor). Depending on how it was intended, BAF may actually be more appropriate for this situation. In addition, suggest replacing “no risk” with the phrase, “acceptable risk.” The data and level of investigation will not be definitive enough to make the statement that “no risk” exists.

18. WP, Page 4-1, § 4.1, Problem Formulation: Suggest using the term “refinement” of COPECs rather than “elimination.”
19. WP, Page 4-1, § 4.1, Risk Management: Should include that preliminary remediation goals (PRGs) will be calculated and used to guide risk management decisions.
20. WP, Page 4-3, § 4.2, 1<sup>st</sup> sentence: Suggest changing “reasonable” to “less conservative.”
21. WP, Page 4-5, § 4.6: Objective is to reduce risks to acceptable levels (PRGs).
22. WP, Page 6-3, § 6.2.2: Please clarify and give rationale for the proposed sample numbers. Was some statistical evaluation of the needs performed? Also, from the text it appears that all of the samples would be considered biased, or at best, haphazard. Will this sampling design limit the utility and statistical strength of the investigation?
23. WP, Page 6-6, § 6.5: To provide additional fate information, suggest collecting the general water quality measurements at the same depth as that of the sample (mid-depth); in addition to the surface.
24. WP, Page 6-6, § 6.6: The sediment sampling design will probably define the areas most likely to have been impacted, but it’s not clear it will provide enough information to define the nature and extent of contamination. Suggest adding sampling locations in the Neches River, both upstream and downstream of the confluence with Star Lake Canal.
25. QAPP, Page 2-7, § 2.4.1.1: Not in agreement that duplicate sediment and soil samples are impossible. They are commonly collected via homogenization of the original bulk sample.
26. QAPP, Page 2-10, § 2.4.1.3: The sampling design can maximize representativeness via statistical approaches (random, stratified random, etc.), based on current knowledge or estimated variances.
27. QAPP, Page 3-7, Table 3-3: As a tier 2 activity, I suggest the collection of fiddler crabs for ecological considerations, rather than the blue crab. The blue crab might be more applicable to the HHRA.